

## Abstract of the disclosure

A double layer perpendicular magnetic recording medium having a high medium S/N ratio at a recording density of 50 Gb/in<sup>2</sup> or higher and a magnetic storage apparatus with a lower error rate and excellent reliability are provided.

In a perpendicular magnetic recording medium in which a soft magnetic underlayer 12, an intermediate layer 13 and a perpendicular magnetic recording layer 14 are sequentially formed on a substrate 11, the intermediate layer 13 is made to be a non-magnetic amorphous alloy, in which Ni is a main component and Zr is contained, and the soft magnetic underlayer 12 is constituted of ferromagnetic nano-crystals precipitated by annealing.

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